



VP-4 Skinny Dragons

Disaster Preparedness

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Overview

- Shelters
- Hurricanes
- Flash flooding
- Landslides
- Tsunamis
- Earthquakes
- How to prepare



Hurricane Shelters

Leeward Coast

- Ahuimanu Elementary
- Castle High
- Enchanted Lake Elementary
- Heeia Elementary
- Kahaluu Elementary
- Kailua High
- Kailua Intermediate
- Kainalu Elementary
- Kalaheo High
- Kaneohe Elementary
- Kapunahala Elementary
- King Intermediate
- Lanikai Elementary
- Maunawili Elementary
- Parker Elementary
- Pope Elementary
- Puohala Elementary
- Waiahole Elementary
- Waimanalo Elementary and Intermediate



Tsunami Shelters

Windward Coast

- Bringham Young Universtiy - HC
- Kahaluu Elementary
- Kahuku Elementary
- Kahuku High and Intermediate
- Kailua District Park
- Kailua Intermediate
- Kailua Elementary
- Kalaheo High
- Parker Elementary
- Pope Elementary
- Waiahole Elementary
- Waimanalo Elementary and Intermediate

Leeward Coast

- Cambell High
- Ilima Intermediate
- Kamaile Elementary

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Hurricanes

- Hurricanes are the most common disaster Hawaii residents have experienced (62%), followed by tsunamis and earthquakes (31% each). Eighty-nine percent of residents say they have experienced a large-scale disaster in their lifetime.
- Most residents (91%) say they are likely to prepare for disasters based on guidelines, but they expect government and community organizations to help them prepare.
- You must have a plan for your family well before a hurricane comes to Hawaii!
- Hawaii is one of the most remote areas on the planet. Help during major disasters may take some time to arrive. All households should store seven days of emergency supplies for each family member—food, water, medicine and other items.



Flash Flooding

- Some floods develop slowly, while others such as flash floods can develop in just a few minutes and without visible signs of rain.
- Many flash floods have a dangerous wall of roaring water carrying rocks, mud, and other debris.
- Do not enter or swim in flood water.
- It is impossible to know with certainty what is in or under the surface of flood water. Any number of hidden risks from debris to chemical or sewage pollution may be present.



Landslides

- More than 15 giant landslides surround the Hawaiian Islands.
- The slides are among the largest known on Earth, and current evidence indicates that large blocks of land on the island of Hawai'i are beginning to slide, generating large earthquakes in the process.
- Take extreme caution when hiking! Landslides have proven deadly on this island!



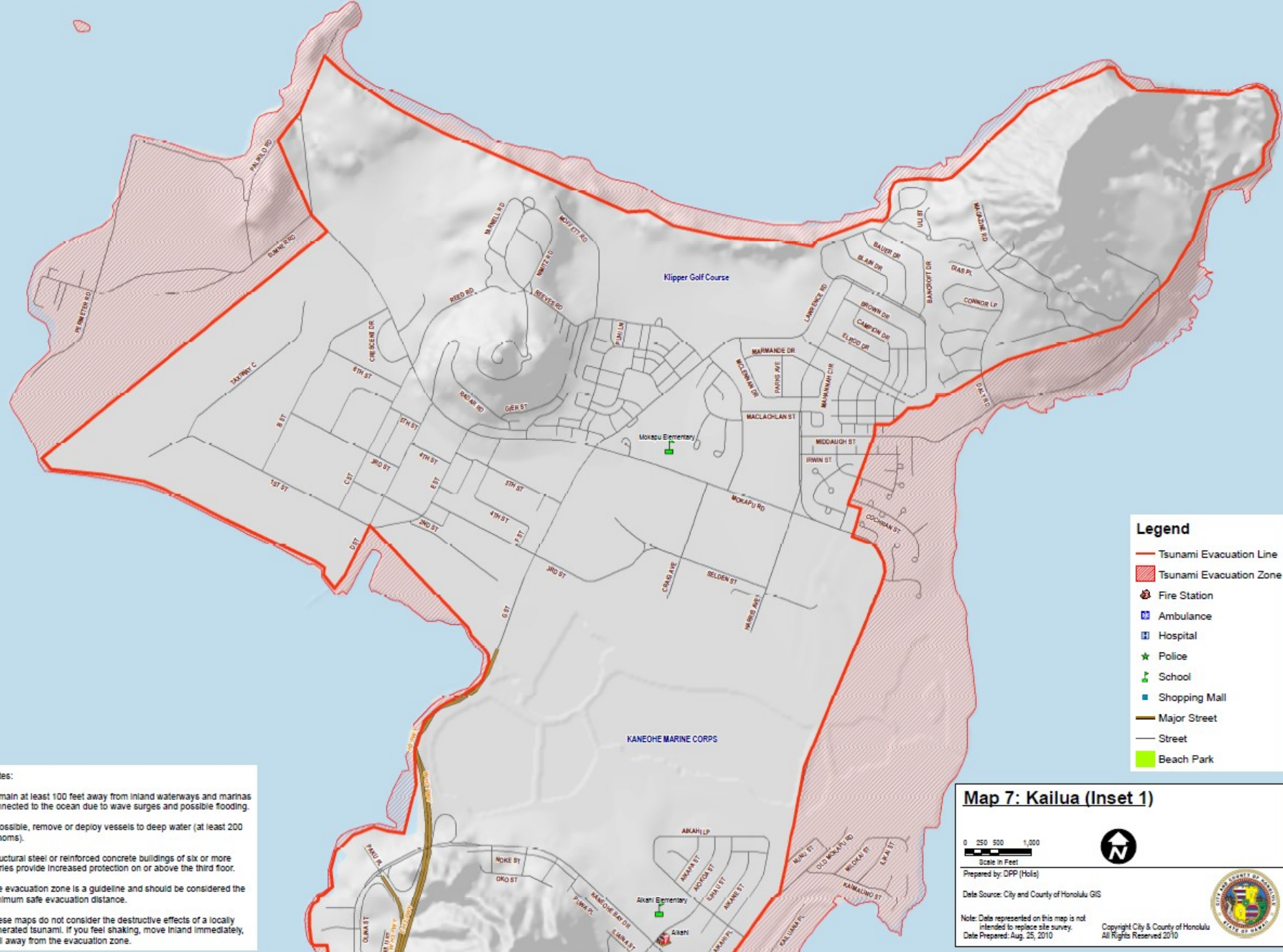
Tsunamis

- Tsunamis are primarily associated with the occurrence of earthquakes in oceanic and coastal regions.
- When an earthquake occurs, the energy generated travels outward in all directions from the source.
- About 50 tsunamis have been reported in the Hawaiian Islands since the early 1800's. Seven caused major damage, and two of these were locally generated.
- Because the speed of a tsunami depends entirely on the depth of the water, the arrival time of a wave from any point on the Pacific rim can be predicted.
- The effects of each new tsunami, and the effects on different coasts of the same tsunami, vary greatly. The size and destructiveness of the waves at any particular site are largely determined by the local topography, both onshore and offshore, and the direction from which the wave approaches.



How do we know what to do?

- The best and most current information is going to be broadcast on the Emergency Alert System via radio and TV stations. In addition to Civil Defense Sirens, the EAS will provide specific information regarding disasters, i.e., how long we have before a tsunami arrives after an earthquake.
- Local Earthquake - An earthquake that causes you to fall or hold on to something to keep from falling is a natural Tsunami WARNING. Initially, protect yourself from the earthquake effects. When the shaking stops, people in evacuation zones should leave immediately (maps to follow).
- Urgent Tsunami WARNING - If a significant earthquake occurs in the vicinity of the Hawaiian Islands, the Pacific Tsunami Warning Center (PTWC) will issue an Urgent Tsunami WARNING for those islands which could be affected by tsunami. The WARNING will be announced over radio through the Emergency Alert System (EAS) in conjunction with the sounding of Civil Defense sirens. If an Urgent Tsunami WARNING specifically identifies Oahu, leave all designated evacuation zones immediately.
- Tsunami WARNING - A tsunami approach has been confirmed. The WARNING will be announced over the radio through the EAS in conjunction with the sounding of Civil Defense sirens. Monitor the radio and be prepared to evacuate when advised or ordered by the Department of Emergency Management.
- Tsunami Evacuation - Civil Defense sirens will sound. Turn on radio. Those who are in tsunami evacuation zones must begin evacuation when the evacuation advisory/order is issued by the Department of Emergency Management (usually 3 to 4 hours prior to wave arrival). City buses will leave evacuation zones, and roads will be sealed off by police no later than 45 minutes prior to first wave arrival.
- Tsunami WATCH - In the event of a significant earthquake in distant areas of the Pacific Basin, i.e., the Aleutians, Alaska, South America, etc., the PTWC will issue a Tsunami WATCH until a tsunami can be confirmed or discounted.



Legend

- Tsunami Evacuation Line
- Tsunami Evacuation Zone
- Fire Station
- Ambulance
- Hospital
- Police
- School
- Shopping Mall
- Major Street
- Street
- Beach Park

Map 7: Kailua (Inset 1)

0 250 500 1,000
Scale in Feet

Prepared by: DPP (Hols)

Date Source: City and County of Honolulu GIS

Note: Data represented on this map is not intended to replace a site survey.
Date Prepared: Aug. 25, 2010

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Notes:

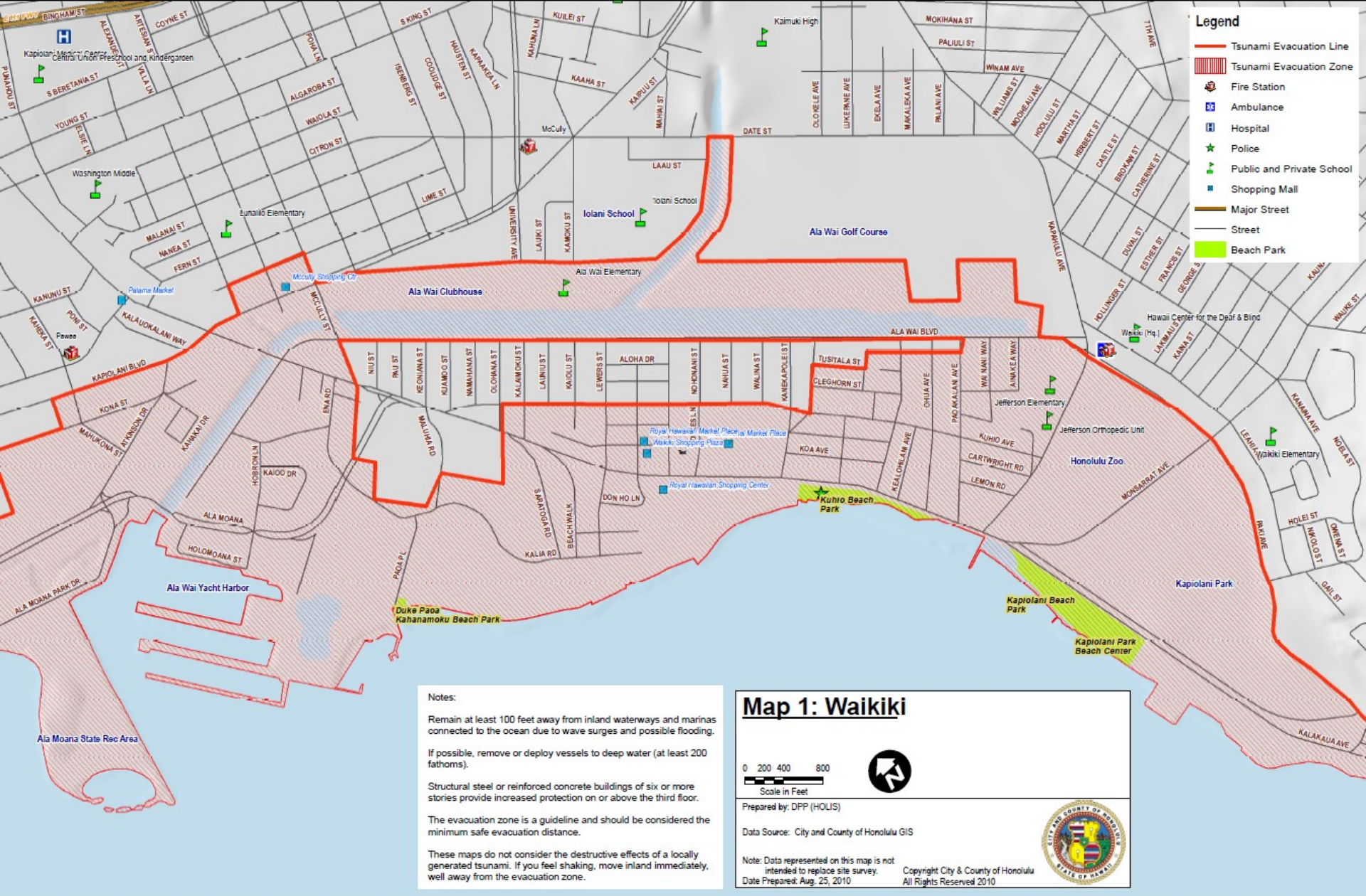
Remain at least 100 feet away from inland waterways and marinas connected to the ocean due to wave surges and possible flooding.

If possible, remove or deploy vessels to deep water (at least 200 fathoms).

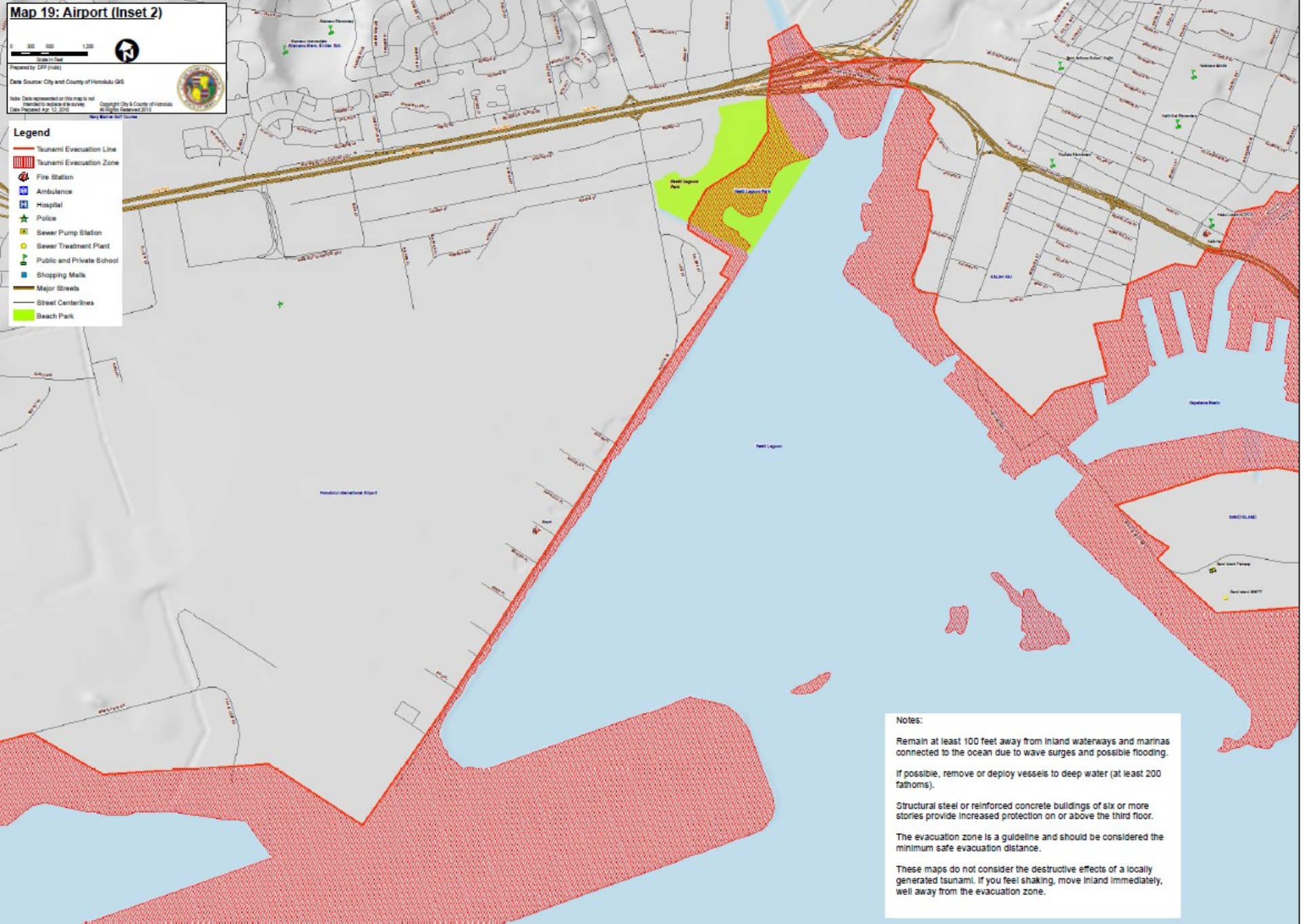
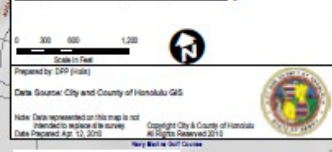
Structural steel or reinforced concrete buildings of six or more stories provide increased protection on or above the third floor.

The evacuation zone is a guideline and should be considered the minimum safe evacuation distance.

These maps do not consider the destructive effects of a locally generated tsunami. If you feel shaking, move inland immediately, well away from the evacuation zone.



Map 19: Airport (Inset 2)



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What to do during and earthquake

DURING AN EARTHQUAKE

- If indoors, DROP to the ground; take COVER by getting under a sturdy table or other piece of furniture; and HOLD ON until the shaking stops. If there isn't a table or desk near you, cover your face and head with your arms and crouch in an inside corner of the building. Do not run outside.
- Stay away from glass, windows, outside doors and walls, and anything that could fall, such as lighting fixtures or furniture.
- Stay inside until shaking stops and it is safe to go outside.
- Be aware that the electricity may go out or the sprinkler systems or fire alarms may turn on.
- DO NOT use the elevators.
- Do not stand under any suspended objects, such as ceiling light fixtures that may fall.
- Stay away from heating units, stoves, fireplaces, and areas where bricks might fall from the chimney.
- If in a multiple story building, stay away from windows and outside walls.
- If outdoors, stay there. Move to any open area, away from anything that could fall, such as trees, poles, power lines or buildings.
- Once in the open, stay there until the shaking stops. The greatest danger exists directly outside buildings, at exits, and alongside exterior walls.



What to do after an earthquake

AFTER AN EARTHQUAKE

- Prepare to be self-sufficient for at least three days, living without running water, electricity and/or gas, telephones and assistance from safety services.
- Examine your surroundings to identify any immediate hazards. Evacuate the building if there is potential for collapse.
- Check for gas and water leaks, broken or down electrical wiring or sewage lines. If there is damage, turn the utility off at the source. Immediately report gas leaks to your utility company.
- Check for injuries and trapped people and render first aid and/or notify the local emergency or medical services as soon as possible. Do not attempt to move those who are seriously injured unless they are in immediate danger.
- If there is damage to the streets, stay where you are and report your location to the dispatcher by radio if possible.
- Be prepared for aftershocks. Be aware of potential Tsunami.
- Do not use the telephone unless it is absolutely necessary, e.g., a serious injury or fire. Phone lines will be jammed with emergency calls.
- Begin to identify available shelter and provisions if you are going to be isolated for some time.
- Turn on your portable radio for instructions and news reports. For your own safety, cooperate fully with public officials and safety instructions.



How to prepare for any emergency: “The Big 3”

- Make a plan
- Pack a kit
- Stay informed



Make a plan

- Your family may not be together when a disaster strikes, so it is important to plan in advance:
- How you will get to a safe place.
- How you will contact one another.
- How you will get back together.
- What you will do in different situations.



Minimum kit inventory for any disaster

- Water, one gallon of water per person per day for at least three days, for drinking and sanitation. THE MOST IMPORTANT ITEM!
- Food, at least a three-day supply of non-perishable food
- Battery-powered or hand crank radio and a NOAA Weather Radio with tone alert and extra batteries for both
- Flashlight and extra batteries
- First aid kit
- Any prescription medicine that anyone in your family currently takes
- Whistle to signal for help or small make up mirror (the best signaling device)
- Dust mask, to help filter contaminated air and plastic sheeting and duct tape to shelter-in-place
- Moist towelettes, garbage bags and plastic ties for personal sanitation
- Wrench or pliers to turn off utilities
- Hand cranking can opener for food
- Cash (your debit/credit cards may not work due to no electricity)
- Local maps